

WEEKLY SUMMARY REPORT  
USEPA OVERSIGHT, SAUGET AREA 2, SAUGET, ILLINOIS  
WA NO. 123-RSBD-05XX/ CONTRACT NO. 68-W6-0025

WEEK ENDING WEDNESDAY, July 12, 2002

DATES OF CH2M HILL OVERSIGHT:

CH2M HILL provided field oversight of URS activities at Sauget Area 2 sites from July 8 through July 12, 2002.

WORK PERFORMED THIS WEEK:

Prosonic Corporation (Prosonic) of Marietta, Ohio, installed one bedrock monitoring well at Sites P, Q, and R each and started advancing the boring for a bedrock monitoring well at the southern end of Site Q. Prosonic mobilized a second sonic drill rig to Area 2 and began the installation of one piezometer north of Site P.

URS and Roberts Environmental Drilling (Roberts) of Millstadt, Illinois, utilized one geoprobe rig to conduct alluvial aquifer sampling at Sites O, P, and S.

URS and Roberts utilized the second geoprobe rig to advance waste characterization borings at Sites P and R. The waste characterization borings at Site P encountered refusal and could not be completed. Other alternative drilling methods were being considered to advance waste borings in Sites P and Q where shallow refusal would be an issue. Waste borings in Site R were advanced as field personnel worked in Level B personal protective equipment (PPE). Environmental Management Alternatives (EMA) provided support to URS personnel working in Level B. In addition, URS collected surface (0'-0.5' below ground surface (bgs)) and subsurface (0.5' to 6' bgs) soil samples from a boring located adjacent to each waste boring. Surface soil samples were collected with a stainless steel hand auger.

In general, the field methodologies follows those specified in the Support Sampling Plan. Site specific details are described as follows:

Site O:

Roberts/URS remobilized to AA-O-01 and AA-O-02 which were previously advanced using the smaller geoprobe rig (the smaller geoprobe rig encountered refusal at depths shallower than anticipated). AA-O-01 was advanced from 66' bgs, where refusal had been encountered on June 19, to refusal at 120' bgs. AA-O-02 was advanced from 121' bgs, where refusal had been encountered on June 25, to refusal at 124' bgs. Groundwater was purged and sampled in ten-foot intervals. A sheen was observed on the surface of groundwater purged from both alluvial aquifer locations. A slight odor was noticed while purging AA-O-01.

Site P:

URS relocated the alluvial aquifer location AA-P-01 and the bedrock monitoring well location BDRK-P-01 approximately 200' north of the original location due to site access and

utilities issues. The locations of Piez-01, Piez-02, and Piez-03 were also moved due to site access and utility issues. The piezometers are still aligned to profile groundwater flow across the northern end of Area 2.

Roberts/URS mobilized to AA-P-01 and advanced the boring from ground surface to refusal at 120.5' bgs. Groundwater was encountered at 11' bgs. URS purged and sampled groundwater in ten-foot intervals starting at 24' bgs. URS personnel observed a slight odor and sheen on the surface of the purged groundwater at approximately 74' bgs.

URS/Prosonic mobilized to BDRK-P-01 and advanced the boring to 159' bgs. Highly fractured limestone was encountered at 130' bgs. Prosonic set the casing at 135' bgs. A two-inch PVC riser with a 5' screen was placed in the boring at a final depth of 155' bgs. A sand filter pack was installed from 155' bgs to 147' bgs. To minimize the loss of grout to the fractured limestone, URS installed the bentonite seal from 147' bgs to 135' bgs. Prosonic grouted BDRK-P-01 to the ground surface and placed an empty 55-gallon stainless steel drum on top of the capped riser for temporary protection. A surface completion will be constructed at a later date. Prosonic decontaminated the downhole equipment at the decontamination pad.

URS/Prosonic mobilized to PIEZ-02. Prosonic advanced PIEZ-02 from ground surface to 137' bgs where bedrock was encountered. URS collected geotechnical samples at 17'-22' bgs, 80'-84' bgs, and 117'-122' bgs. Prosonic installed the deep piezometer by placing a 1" PVC riser with a 10' screen interval to a final depth of 135' bgs. However, as Prosonic pulled the 6" casing, the riser was inadvertently pulled down by a vacuum in the casing to a final depth of 137' bgs. As a result, the bottom of the riser was set on bedrock. The filter sand pack was placed from 137' bgs to 124' bgs. Bentonite chips were placed from 124' bgs to 83.5' bgs and hydrated in place. Filter sand was then placed from 83.5' bgs to 79' bgs where the middle piezometer was installed (1" PVC riser, 10' screened interval). The filter sand continued from 79' bgs to 65' bgs. Prosonic placed bentonite chips from 65' bgs to 31'10" bgs and hydrated them in place. The shallow piezometer will be installed next week.

#### Site Q:

The location of BDRK-Q-01 was moved north near the location of BT-Q-05 due to utility issues. URS encountered slight to moderately fractured limestone bedrock at 135' bgs and set the outer casing at 140' bgs. A two-inch PVC riser with a 5' screen was placed in the boring to a final depth of 160' bgs. A sand filter pack was installed to 152' bgs. A bentonite seal consisting of hydrated bentonite pellets was installed to 140' bgs due to concerns of losing the grout to the fractured upper zone of the limestone formation. The cement/bentonite grout was installed from 140' bgs to the ground surface. URS placed a 55-gallon drum over the capped riser as temporary protection. A surface completion will be constructed at a later date. Prosonic decontaminated down-hole equipment at the decontamination pad.

BDRK-Q-02 was relocated approximately 200' feet southeast near the location of BT-Q-09. Prosonic/URS mobilized to BDRK-Q-02 and advanced the boring from ground surface to 95' bgs.

#### Site R:

Prosonic/URS continued to advance the boring for BDRK-R-01 from 140' bgs (bottom of

casing achieved on July 3) to 160' bgs. A two-inch PVC riser with a 5' screen was placed in the boring. A sand filter pack was installed to 152' bgs. A bentonite seal consisting of hydrated bentonite pellets was installed to 149' bgs. A cement/bentonite grout was installed from 149' bgs to the ground surface. URS placed a 55-gallon drum over the capped riser as temporary protection. A surface completion will be constructed at a later date. Prosonic decontaminated down-hole equipment at the decontamination pad.

Roberts/URS/EMA mobilized to Site R to advance waste characterization borings. Waste borings were advanced a minimum of two feet beyond the bottom of the waste material. Waste material predominantly consisted of a black cinder matrix. Native soil consisted of a brown silty sand immediately beneath the waste material.

WASTE-R-01 was advanced to 32' bgs with the waste/native soil interface observed at 25' bgs. Based on PID readings, the native soil appeared impacted from 25' bgs to 28' bgs and non-impacted from 28' bgs to 32' bgs. Groundwater was encountered at approximately 24' bgs. The thickness of the cap material overlying the waste was 6', however, based on visual observation and PID readings, no soil was excluded from the ground surface to the bottom of waste in the waste composite sample.

WASTE-R-02 was advanced to 28' bgs with the waste/native soil interface observed at 21' bgs. Groundwater was encountered at approximately 25' bgs. The thickness of the cap material was 6'.

WASTE-R-03 was advanced to 24' bgs. An impacted silty sand was observed at 21' bgs, however, this depth was determined as the waste/native soil boundary. A "clean" brown silty sand was not observed until the end of the boring at 24' bgs. URS observed product at approximately 22'-24' bgs. The cap was observed to be 6' thick. URS omitted the 0' to 2' bgs interval from the waste composite sample due to no observed impact and no elevated PID readings.

WASTE-R-04 was advanced to 28' bgs. The bottom of the cinders and depth to groundwater was observed at 26' bgs. The native soil consisted of a silty sand with elevated PID readings. The thickness of the cap was 13'.

In addition, surface (0'-0.5') and subsurface (0.5'-6') soil samples were collected from a boring offset adjacent to each of the waste sample borings. Surface soil samples were collected using a stainless steel hand auger.

#### Site S:

Roberts/URS resumed alluvial aquifer sampling activities at AA-S-01. URS had to resample AA-S-01 starting at 44' bgs because Federal Express lost some of the Site S sample coolers. Therefore, URS advanced the boring from ground surface to 44', 54', and 64' bgs. URS purged and re-sampled these depth intervals. The boring was then advanced to 104' bgs and 114' where the groundwater was purged and sampled. Roberts decontaminated the geoprobe rods with a liquinox/water wash and a water rinse.

URS will have to resample depth intervals at AA-S-03 and AA-O-03 since Federal Express lost several of these samples as well.

ISSUES OR PROBLEMS ENCOUNTERED:

The PRP group proposed using Prosonic's sonic drill rig as drilling alternatives for waste borings at Sites P and Q because shallow refusals were encountered with geoprobe rig at the two sites. Prosonic would advance the hole dry to avoid the introduction of water to the subsurface. However, if refusal (i.e. concrete, rebar, brick) was encountered, Prosonic would have to introduce water to cool the bit while advancing through the refusal. Concern was raised whether the introduction of water would affect the TCLP samples.

Chemists from CH2M HILL, URS, and STL Savannah were to discuss the acceptability of a TCLP method for analyzing saturated samples.

CH2M HILL also spoke with Mike Ribordy who concurred that this method would work as long as Prosonic used a minimal amount of water when drilling through refusal. Once the bit advanced through refusal, Prosonic should discontinue the flow of water into the boring. In addition, there would be less concern of water affecting the samples if the chemists verify that the method for analyzing saturated soil samples for TCLP constituents was acceptable. However, the emphasis will be passed on to Prosonic to keep any necessary introduction of water to a minimum.

WORK SCHEDULED FOR NEXT WEEK:

Two geoprobe rigs will continue to collect alluvial aquifer samples.

Prosonic will utilize one sonic rig to continue the installation of bedrock monitoring wells.

Prosonic will utilize the second sonic rig to complete Piez-02 and begin advancement of waste characterization borings at Sites P and Q.

URS might install the leachate well at Site R using one of the sonic rigs.